

REMARKS

We have carefully considered the Office Action dated March 3, 2003 in which the Examiner rejects the claims as obvious over various combinations of three, four and five patents. In response to the Examiner's comments we have corrected certain typographic errors in the specification, in the paragraph numbering of claim 27 and in the reference numbering of Fig. 9. Further, we point out that reference numeral 220 in Fig. 2 is included in a box labeled "sensor," and refers to that sensor. The sensor 220 is discussed, by way of example, on page 10 of the specification.

We have amended independent claims 1, 12 and 27 to more particularly point out the current invention. The current system includes monitoring subsystems that continuously monitor the operations of various household appliances, collect functional data, and analyze the operations of the appliances. When the respective appliances require attention to avoid failure, the monitoring subsystems send messages and related functional data to a remote center. The remote center further analyses the data and messages and notifies users and/or servicemen that one or more of the appliances in a given household require particular attention to avoid failure. The remote center and/or the monitoring subsystems may, for example, determine that an appliance requires attention to avoid a failure due to changes in how the appliance functions over time, based on an analysis of the retained functional data. As further set forth in independent claim 27, the monitoring subsystems may set one or more alarms when user attention is required and thereafter, as necessary, transmit the messages and related functional data to the remote center.

The Federal Circuit has stated that there must be a teaching or suggestion to combine references for an obviousness rejection. We contend that there is no such teaching or suggestion in the various patents cited against the pending claims.

The Examiner primarily relies on a combination of Conkright, Manson and Vines. As discussed in more detail below, Conkright relates to a system that polls electrical apparatus operating at various geographically separated commercial sites, to avoid having to send personnel to the respective sites in order to, for example, read meters, read current

sensors to determine if any apparatus have failed, and so forth. Manson relates to a stand-alone system that is incorporated into or attached to an individual household appliance and provides audible and/or visual alarms that indicate to nearby users that the appliance is experiencing a failure and/or fault condition. Vines relates to a complex system that operates industrial machinery in a commercial plant or facility. There is no teaching or suggestion to combine the three very different systems of Conkright, Manson and Vines to make obvious the current system for servicing household appliances.

To reject independent claim 27, the same three patents are further combined with two additional patents such that a total of five patents are combined for the obviousness rejection. As discussed below, there is no teaching or suggestion to combine the additional patents with Conkright, Manson and/or Vines.

We had discussed Conkright and Manson in some detail in a prior response and how a combination of the teachings of the two patents does not teach or suggest the current system. After careful reconsideration of the two patents, we add to our prior discussion the observation that there is no teaching or suggestion to even combine the patents.

Before we discuss the combinations of references, we would like to address the Examiner's comments concerning particular notification routines and subroutines performed by the Conkright system. In the earlier response we pointed out that the Conkright patent does not explain what occurs in its notification routine and/or its alert notification subroutine. The Examiner argues that Conkright explains these routines and subroutines by describing the operations of the system in response to received messages from sources other than the customer. As the Examiner points out, Conkright states at Column 4, lines 48-51, "if the received message was not sent by a customer, the computer determines, at decision block 60, whether it needs to perform an alert notification subroutine." This language, however, does not clarify what occurs during the subroutine or even under what conditions the subroutine is performed. Accordingly, we continue to find confusing in the patent the description (or lack thereof) of the notification routine and subroutines.

As the Examiner also points out, the Conkright system is not designed to operate with household appliances. Indeed, the Conkright system is designed primarily to monitor and control electrical apparatus that are situated in locations which the customer does not frequent, that is, commercial electrical apparatus that are located in “geographically diverse positions.” (Column 1, lines 14-16) The Conkright patent describes in broad terms what the system may do – for example, the system may control the operations of remote units that perform various meter readings and thereby eliminate the need to send personnel to the locations to manually read the meters, and so forth (Column 1, lines 47-52). The embodiment described in more detail in Conkright is a system that controls remote units to turn lights go on and off at various billboard locations. The remote units are also directed to periodically read current sensors, to determine if the lights are drawing sufficient current. The periodic reading of the sensors eliminates having to send personnel to the various billboard locations to check if the billboard lights are on. There is no teaching or suggestion to look to the Conkright system, which polls electrical apparatus in various locations, when designing systems for servicing household appliances.

As the Examiner points out, Conkright does not teach or suggest a system that monitors the operations of an electrical apparatus to determine if the apparatus requires service in order *to avoid failure*. Further, Conkright does not teach or suggest retaining and analyzing functional data. Instead, as set forth in Column 8, lines 8 - 27, the Conkright system retains a steady state current level determined during calibration operations, and thereafter, periodically tests if the apparatus is drawing current at the steady state level, in order to determine if the apparatus has failed. Accordingly, Conkright can not analyze changes in the operations of the apparatus over time.

The Manson patent describes a stand-alone diagnostic system for an automatic appliance, such as a washing machine, that operates in close proximity to the user. When a fault or error condition is detected, the Manson system displays certain information on the appliance control panel and/or sounds various buzzers and so forth on the appliance, to draw the attention of the nearby user. In response to detected fault or error conditions, the system also locally stores certain error data that may thereafter be accessed locally through the appliance control panel by a serviceman who has been called by the user in

response to a displayed call service code. (Abstract; Column 2, lines 52 et seq.; Column 9, lines 34 et seq.; Column 16, lines 6 et seq.; Column 17, lines 33 et seq.).

The Manson system does not retain functional data when the appliance is operating properly and/or analyze the functional data to determine if the appliance requires service to avoid failure. Further, there is no teaching or suggestion in Manson of transmitting fault or error codes, alarms and/or error data to a remote center. Accordingly, there is no teaching or suggestion to look to Manson when designing a system for servicing household appliances that is controlled by a remote center. Also, there is no teaching or suggestion to combine the Manson stand-alone system with the Conkright system for remotely polling electrical apparatus that are located in geographically diverse positions, to determine if the respective apparatus have failed.

The Vines patent describes a complex maintenance management system that monitors and controls equipment in a given commercial plant or facility (Column 1, lines 19-23). The Vines system is designed for a sophisticated user who sets up the system by associating process variables with respective equipment identifiers; establishing automatic data feeds; defining "action limits" for various equipment operations, and so forth. (Column 1, lines 61 et seq.; Column 4, lines 4 et seq.; Column 5, lines 38-40). Accordingly, there is no teaching or suggestion to look to Vines when designing a system for servicing household appliances.

Further, there is no teaching or suggestion of combining Vine's complex system for operating equipment in a given commercial plant with Manson's stand-alone system for monitoring an individual household appliance and/or Conkright's system for polling electrical apparatus that geographically dispersed.

Even if the teachings of all three patents could be combined, they do not teach or suggest a system for servicing household appliances in which monitoring subsystems continuously (a) retain and analyse functional data from the respective household appliances, (b) determine if any appliance is in need of attention to *avoid failure*, and (c) transmit messages and associated functional data to a remote center for further processing. Further, such a combination does not teach or suggest a system that includes a re-

mote center that further analyzes the data and messages and contacts appropriate users and/or service people to inform them of the attention that is required to avoid the failure of one or more of the respective appliances. Accordingly, the three patents in combination do not teach or suggest the invention as set forth in independent claims 1, 12 and 24 and the claims that depend therefrom.

To reject independent claim 27, the Examiner adds to Conkright, Manson and Vines two additional patents, namely, Klausner and Baumann.

Klausner describes a stand-alone system that connects the appliances in a household to a local central computer that is selectively plugged into the respective appliances. The central computer polls various appliances to obtain signals from sensors on the appliances, and thereafter, sends signals to the respective appliances to control the operations of the appliances (Column 3, lines 27 et seq.). The system may also locally display error information relating to a given appliance and/or allow customer service to perform via modem a remote diagnosis of the appliance, presumably after the user has contacted customer service about the appliance. Klausner does not teach or suggest a system for servicing household appliances that includes a remote center and monitoring subsystems that operate together to *avoid failures* of the respective appliances.

Baumann describes a system for monitoring various monitorees, i.e., prisoners and so forth, that leave from a central location and go into the field. (Column 3, lines 4 et seq.). There is no teaching or suggestion that such a system for monitoring the whereabouts of people should be combined with various systems for monitoring and controlling the operations of stationary equipment, apparatus or appliances.

To reject various claims that depend from claim 1 or claim 12, the Examiner further combines Conkright, Manson and Vines with Canada. The Canada system is a "self-contained machine monitor" for use with "a large industrial electrical machine, such as an ac induction motor" (Column 1, lines 11-15; Column 4, lines 24 - 35). The self-contained monitor attaches directly to the machine and senses various operating parameters, to determine the operating status of the machine. When an anomalous motor operating condition is detected, the monitor signals to nearby users with lights and/or alarms (Column 12, lines 61 et seq.). There is no teaching or suggestion to combine Canada's

self-contained industrial machine monitor with the teachings of the various equipment, apparatus and appliance monitoring systems discussed above and/or to look to Canada when designing a system for servicing household appliances.

The Examiner cites various other patents in combination with Conkright, Manson and Vines. As discussed briefly below, these patents do not teach or suggest the current system and/or do not teach or suggest combining the systems with those of the patents described above to make obvious the current system for servicing household appliances.

Aisa describes a stand-alone electronic control system for controlling the operations of an appliance, such as a washing machine. The control system utilizes user-supplied information and information obtained through various sensors to control the operations of the appliance, in order to optimize the performance of the appliance. The information obtained by the sensors may be, for example, water hardness, detergent concentration and so forth. The Aisa system does not teach or suggest a system that analyses functional data from various appliances in order to direct servicing of the respective appliances to *avoid failure* of respective appliance.

The Broadbent patent describes an essentially stand-alone machine controller apparatus that allows a user to enter command selections, and so forth, that the apparatus then uses to control the operations of the machine. The machine controller apparatus also identifies particular errors (Column 3, lines 45 - 51) and locally displays error prompts (Column 4, lines 1 - 3). A nearby user may then enter various commands to access a stored service or operating manual, for use in correcting the detected error. (Column 4, lines 3 et seq.)

The Broadbent machine controller apparatus also locally displays a prompt to notify the user that an internal timer has reached a predetermined scheduled maintenance milestone. There is no teaching or suggestion that the machine controller apparatus analyzes functional data to determine when any non-scheduled service or maintenance should be performed to *avoid failure* of the appliance.

Gonyea describes a system that predicts long-term maintenance costs based on the expected use of a product over the term of a service contract. (0024, 0026) It is not a

system that analyzes functional data from various appliances in order to determine when to service the appliances in order to *avoid failures*.

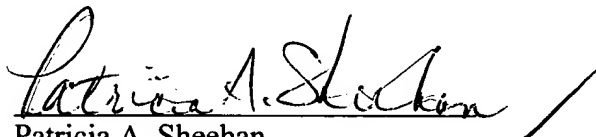
Lauger-Diaz describes a system for transmitting particular files from a vehicle and “resides primarily in a novel combination of processing steps and hardware elements related to a vehicle communications system and the transfer of files therefrom.” (Column 4, lines 35 – 38).

Ehlers describes a system for controlling the operations of various devices to maintain a user-specified indoor environment condition, such as temperature. The system includes the cost of fuel in determining how to control the operations of the various devices, in order to maintain the user-specified temperature within a user-specified budget. There is no teaching or suggestion to control the servicing of the appliances to *avoid failures*.

We request that the Examiner enter the amendment and reconsider the rejection of the pending claims, which should now be in form for allowance. Further, we request that the Examiner issue a Notice of Allowance for the pending claims.

Please charge any additional fee occasioned by this paper to our Deposit Account No. 03-1237.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Patricia A. Sheehan", followed by a large, stylized checkmark or flourish.

Patricia A. Sheehan

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